Abstracts

Radial Line Band Rejection Filters in Coaxial Waveguides (Dec. 1967 [T-MTT])

D. Varon. "Radial Line Band Rejection Filters in Coaxial Waveguides (Dec. 1967 [T-MTT])." 1967 Transactions on Microwave Theory and Techniques 15.12 (Dec. 1967 [T-MTT]): 680-687.

A coaxial waveguide with a cylindrical cavity forming a double discontinuity in the outer conductor is known to serve as a band rejection filter in the microwave region. A variational principle is applied to calculate the rejection frequency and a subsequent analysis is conducted to determine the dependence of that frequency on various parameters of the structure. Results are presented graphically and by simple analytical formulas. They demonstrate a newly discovered relationship between the rejection frequency and the width of the cavity, and provide design information which enables prediction of the rejection frequency within a 1 percent accuracy.

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